

SEQUENCE LISTING

<110> Hearing, Patrick

Bahou, Wadie

Sandalon, Ziv

Gnatenko, Dmitri

<120> Adenoviral Vectors

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<150> 60/237,747

<151> 2000-10-02

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| ctccaaggcc | agagtgcagt | ggagcgatca | cagctcactg | cagcccctgc | cttcagggt | 55260 |
| caagccatcc | tcccacctca | gcttctcaag | tagctgggac | tacaggcatg | caccaccacg | 55320 |
| cccagctaata | ttttgtattt | tttttttttt | ttttagaga | cggggttcac | cgtgttgctt | 55380 |
| aggctgggtc | caaaccctg | agctcaagca | atctgccctc | cttggcctcc | caaagtgttg | 55440 |
| gatttacagg | cgtgagccac | tgtgcctgga | tatggtaact | ttttcatatg | ctatttgctt | 55500 |
| gatgattatt | tttctgtttc | tgatataatg | ctttttatta | gagagttatc | tgtttgtttt | 55560 |
| tatttttttaa | tgtttggaatt | taaaaaatta | gtataatttg | cataattgaa | aaattatatt | 55620 |
| tgaataattg | aaatatattt | gtataacctt | aaatttaaaa | actatgatag | cgtatacagt | 55680 |
| gaaattttcc | tctcatccct | tttttccatt | taaccagtgc | acttcccaac | agccaacaga | 55740 |
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| catatttctg | ccttgtaaca | caaatagtag | catactatac | aactgctctg | cttcttcctt | 55860 |
| tttttagcta | agaatattaa | aagagtgaag | aagatgtacg | ctaacaaaaa | tcaaaaagaaa | 55920 |
| actagagtga | cattataaga | actgatgatg | tagatttcag | agcaatgatt | actgctagga | 55980 |
| aaaaaggggc | attttacatt | gatcaaagag | gtcaactcat | caggaagaca | taataatcct | 56040 |
| aaacacttat | gtacttaaca | gagcatcaaa | atacatgaag | cataaatgaa | agaaccgtgg | 56100 |
| gagaaagtag | acaaattaat | gactgtagtt | gaagatttca | gtatccctct | atgaaaatca | 56160 |
| gggtagtaca | agtacacaga | aaattggtaa | agatatatga | cttgaacaac | attatcaacc | 56220 |
| aaattgacct | catttacatt | tgtggaatgt | tccaactaag | aacgtcagaa | aacatactct | 56280 |
| tttcaagtgc | acatggaaca | tttaccaga | tagacaatat | tttgggtcac | cgcaagtctc | 56340 |
| aacacattga | aaggattcag | atcatataaa | gtatgctcca | tgaccatgat | ggaattgaat | 56400 |
| tagaaaccaa | taatgtatct | ctggaaaata | cacaaatatt | tggaaattaa | tatgcccttc | 56460 |

| | | | | | | |
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| taaaaaat | ttt atgcatcaag | aagaaatcaa | aaagggatat | ttgaaaagta | ctatgaaact | 56520 |
| gatggccagg | catggtgctc | atcgctgta | atcccagcac | tttgggaggc | cgagaaagat | 56580 |
| ggatgaagtc | aggagttcaa | gaccagcctg | ggcaacatgg | cagaacccccg | tctctactaa | 56640 |
| aaatacaaaa | aattagccgg | gcgtggtggt | gggcgcctgt | aatcccagca | gtccacgtgt | 56700 |
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<210> 18

<211> 2039

<212> DNA

<213> Homo sapiens

<400> 18

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| gcccgaactcc | gctggtcagc | gccaagtgac | ttacgcccc | gacctgagc | ccggaccgct | 120 |
| aggcgaggag | gatcagatct | ccgctcgaga | atctgaaggt | gccctggctc | tggaggagtt | 180 |
| ccgtcccagc | ccgcggtctc | ccggtactgt | cgggccccgg | ccctctggag | cttcaggagg | 240 |
| cggccgtcag | ggtcggggag | tatttgggtc | cggggtctca | gggaagggcg | gcgcctgggt | 300 |
| ctgcggtatc | ggaaagagcc | tgctggagcc | aagtagccct | ccctctcttg | ggacagaccc | 360 |
| ctcggtccca | tgtccatggg | ggcaccgcgg | tcctcctcc | tggccctggc | tgctggcctg | 420 |
| gccgttgccc | gtccgcccac | catcgtgctg | atctttgccg | acgacctcgg | ctatggggac | 480 |
| ctgggctgct | atgggcaccc | cagctctacc | actcccaacc | tggaccagct | ggcggcgggg | 540 |
| gggctgcggt | tcacagactt | ctacgtgcct | gtgtctctgt | gcacaccctc | tagggccgcc | 600 |
| ctcctgaccg | gccggctccc | ggttcggatg | ggcatgtacc | ctggcgtcct | ggtgccagc | 660 |
| tccccggggg | gctgcccct | ggaggaggtg | accgtggccg | aagtcctggc | tgcccagggc | 720 |
| tacctcacag | gaatggccgg | caagtggcac | cttgggggtg | ggcctgaggg | ggccttctctg | 780 |
| cccccccatc | agggttcca | tcgatttcta | ggcatcccgt | actcccacga | ccaggggcccc | 840 |
| tgccagaacc | tgacctgctt | cccgcgggcc | actccttgcg | acggtggctg | tgaccagggc | 900 |
| ctggtcccca | tcccactggt | ggccaacctg | tccgtggagg | cgcagcccc | ctggctgccc | 960 |
| ggactagagg | cccgtacat | ggctttcgcc | catgacctca | tggccgacgc | ccagcgccag | 1020 |
| gatcgcccct | tcttctgta | ctatgcctct | caccacaccc | actaccctca | gttcagtggg | 1080 |
| cagagctttg | cagagcgttc | aggccgcggg | ccatttgggg | actccctgat | ggagctggat | 1140 |
| gcagctgtgg | ggaccctgat | gacagccata | ggggacctgg | ggctgcttga | agagacgctg | 1200 |
| gtcatcttca | ctgcagacaa | tggacctgag | accatgcgta | tgtcccagag | cggctgctcc | 1260 |

| | |
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| ggtctcttgc ggtgtggaaa gggaacgacc tacgagggcg gtgtccgaga gcctgccttg | 1320 |
| gccttctggc caggtcatat cgctcccggc gtgaccacg agctggccag ctccctggac | 1380 |
| ctgctgcta ccctggcagc cctggctggg gcccactgc ccaatgtcac cttggatggc | 1440 |
| tttgacctca gcccctgct gctgggcaca ggcaagagcc ctccggcagtc tctcttcttc | 1500 |
| taccgcctcct acccagacga ggtccgtggg gtttttgcgtg tgcggactgg aaagtacaag | 1560 |
| gctcacttct tcaccaggg ctctgccac agtgatacca ctgcagacc tgctgccac | 1620 |
| gcctccagct ctctgactgc tcatgagccc ccgctgctct atgacctgtc caaggaccct | 1680 |
| ggtgagaact acaacctgct ggggggtgtg gccggggcca cccagaggt gctgcaagcc | 1740 |
| ctgaaacagc ttcagctgct caaggcccag ttagacgcag ctgtgacctt cggccccagc | 1800 |
| caggtggccc ggggcgagga ccccgccctg cagatctgct gtcacctggt ctgcaccccc | 1860 |
| cgcccagctt gctgccattg cccagatccc catgcctgag ggcccctcgg ctggcctggg | 1920 |
| catgtgatgg ctctcactg ggagcctgtg ggggaggctc aggtgtctgg agggggtttg | 1980 |
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<210> 19

<211> 1917

<212> DNA

<213> Homo sapiens

<400> 19

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| aaataaatgg aaatagtact actcagggt gtcacatcta catctgtgtt tttgcagtgc | 180 |
| caatttgcac tttctgagt agttacttct actcaccttc acagcagcca gtaccgcagt | 240 |
| gccttgcata tattatatcc tcaatgagta cttgtcaatt gattttgtac atgcgtgtga | 300 |
| cagtataaat atattatgaa aaatgaggag gccaggcaat aaaagagtca ggatttcttc | 360 |
| caaaaaaaaa acacagcggg ggagcttggc ataaagttca aatgctccta caccctgccc | 420 |
| tgcagtatct ctaaccaggg gactttgata aggaagctga aggggtgatat tacctttgct | 480 |
| ccctcactgc aactgaacac atttcttagt ttttaggtgg ccccgcctgg ctaacttgct | 540 |
| gtggagtttt caagggcata gaatcgctct ttacacaatt aaaagaagat gctgtttaat | 600 |
| ctgaggatcc tgtaaataaa tgcagctttt agaaatggct acaacttcat ggttcgaaat | 660 |
| tttcggtgtg gacaaccact acaaaataaa gtgcagctga agggccgtga ctttctcact | 720 |
| ctaaaaaact ttaccggaga agaaattaaa tatatgctat ggctatcagc agatctgaaa | 780 |

| | | | | | | |
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| tttaggataa | aacagaaagg | agagtatttg | cctttattgc | aggggaagtc | cttaggcatg | 840 |
| atTTTTgaga | aaagaagtac | tcgaacaaga | ttgtctacag | aaacaggctt | tgcaacttctg | 900 |
| ggaggacatc | cttggttttcc | taccacacaa | gatattcatt | tgggtgtgaa | tgaaagtctc | 960 |
| acggacacgg | cccgtgtatt | gtctagcatg | gcagatgcag | tattggctcg | agtgtataaa | 1020 |
| caatcagatt | tggacaccct | tgctaaagaa | gcattccatcc | caattatcaa | tgggctgtca | 1080 |
| gatttgtacc | atcctatcca | gacctgggt | gattacctca | cgctccagga | acactatagc | 1140 |
| tctctgaaag | gtcttaccct | cagctgtttc | ggggatggga | acaatatcct | gcactccatc | 1200 |
| atgatgagcg | cagcgaaatt | cggaatgcac | cttcaggcag | ctactccaaa | gggttatgag | 1260 |
| ccggatgcta | gtgtaaccaa | gttggcagag | cagtatgcca | aagagaatgg | taccaagctg | 1320 |
| ttgctgacaa | atgatccatt | ggaagcagcg | catggaggca | atgtattaat | tacagacact | 1380 |
| tggataagca | tgggacgaga | agaggagaag | aaaaagcggc | tccaagcttt | ccaaggttac | 1440 |
| caagttacaa | tgaagactgc | taaagttgct | gcctctgact | ggacattttt | acactgcttg | 1500 |
| cccagaaagc | cagaagaagt | ggatgatgaa | gtcttttatt | ctcctcgatc | actagtgttc | 1560 |
| ccagaggcag | aaaacagaaa | gtggacaatc | atggctgtca | tgggtgtccct | gctgacagat | 1620 |
| tactcacctc | agctccagaa | gcctaaattt | tgatgttgtg | ttacttgtca | agaaagaagc | 1680 |
| aatgttggtc | agtaacagaa | tgagttgggt | tatggggaaa | agagaagaga | atctaaaaaa | 1740 |
| taaaccaatc | cctaacacgt | ggtatgggcg | aatcgtagca | tatgctttgc | cattgtgaaa | 1800 |
| ctttccttaa | gccttcaatt | taagtgtctga | tgactgttaa | tacgtgctta | actttgctta | 1860 |
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<210> 20

<211> 2680

<212> DNA

<213> Homo sapiens

<400> 20

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| tagtccaatt | gcagagaact | cgcttcccag | gcttctgaga | gtcccgaag | tgcttaaacc | 120 |
| tgtctaatac | acggggcttg | ggtagggcgt | cgctccctgg | cttcttccct | ttaccagggt | 180 |
| cgggcagcga | agtgggtgct | cctgcgtccc | ccacaccctc | cctcagcccc | tcccctccgg | 240 |
| cccgtcctgg | gcaggtgacc | tggagcatcc | ggcaggctgc | cctggcctcc | tgcgtcagga | 300 |
| caagcccacg | aggggctgta | ctgtgctggg | atgcaccacg | caagagacac | cctttgtaac | 360 |
| tctcttctcc | tcctagtgc | gagggttaaaa | ccttcagccc | cacgtgctgt | ttgcaaacct | 420 |

| | | | | | | |
|-------------|-------------|-------------|------------|------------|------------|------|
| gcctgtacct | gagggccctaa | aaagccagag | acctcactcc | cggggagcca | gcatgtccac | 480 |
| tgcggtcctg | gaaaaccag | gcttgggcag | gaaactctct | gactttggac | aggaaacaag | 540 |
| ctatattgaa | gacaactgca | atcaaaatgg | tgccatatca | ctgatcttct | cactcaaaga | 600 |
| agaagttggt | gcattggcca | aagtattgcg | cttatttgag | gagaatgatg | taaacctgac | 660 |
| ccacattgaa | tctagacctt | ctcgttttaa | gaaagatgag | tatgaatttt | tcacccattt | 720 |
| ggataaacgt | agcctgcctg | ctctgacaaa | catcatcaag | atcttgaggc | atgacattgg | 780 |
| tgccactgtc | catgagcttt | cacgagataa | gaagaaagac | acagtgccct | ggttcccaag | 840 |
| aaccattcaa | gagctggaca | gatttgccaa | tcagattctc | agctatggag | cggaactgga | 900 |
| tgctgaccac | cctgggttta | aagatcctgt | gtaccgtgca | agacggaagc | agtttgctga | 960 |
| cattgcctac | aactaccgcc | atgggcagcc | catccctcga | gtggaataca | tggaggaaga | 1020 |
| aaagaaaaca | tggggcacag | tggtcaagac | tctgaagtcc | ttgtataaaa | cccatgcttg | 1080 |
| ctatgagtac | aatcacattt | ttccacttct | tgaaaagtac | tgtggcttcc | atgaagataa | 1140 |
| cattccccag | ctggaagacg | tttctcaatt | cctgcagact | tgactgggtt | tccgcctccg | 1200 |
| acctgtggct | ggcctgcttt | cctctcgggg | tttcttgggt | ggcctggcct | tccgagtctt | 1260 |
| ccactgcaca | cagtacatca | gacatggatc | caagcccatg | tatacccccg | aacctgacat | 1320 |
| ctgccatgag | ctgttgggac | atgtgccctt | gttttcagat | cgcagctttg | cccagttttc | 1380 |
| ccaggaaatt | ggccttgccct | ctctgggtgc | acctgatgaa | tacattgaaa | agctcgccac | 1440 |
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| gcccctgtat | tacgtggcag | agagttttaa | tgatgccaa | gagaaagtaa | ggaactttgc | 1680 |
| tgccacaata | cctcgccctt | tctcagttcg | ctacgacca | tacacccaaa | ggattgaggt | 1740 |
| cttggaacaat | accagcagc | ttaagatttt | ggctgattcc | attaacagtg | aaattggaat | 1800 |
| cctttgcagt | gccctccaga | aaataaagta | aagccatgga | cagaatgtgg | tctgtcagct | 1860 |
| gtgaatctgt | tgatggagat | ccaactattt | ctttcatcag | aaaaagtccg | aaaagcaaac | 1920 |
| cttaatttga | aataacagcc | ttaaatcctt | tacaagatgg | agaaacaaca | aataagtcaa | 1980 |
| aataatctga | aatgacagga | tatgagtaca | tactcaagag | cataatggta | aatcttttgg | 2040 |
| ggtcatcttt | gatttagaga | tgataatccc | atactctcaa | ttgagttaaa | tcagtaatct | 2100 |
| gtcgcatttc | atcaagatta | attaaaattt | gggacctgct | tcattcaagc | ttcatatatg | 2160 |
| ctttgcagag | aactcataaa | ggagcatata | aggctaaatg | taaaacacaa | gactgtcatt | 2220 |

agaattgaat tattgggctt aatataaatc gtaacctatg aagtttattt tctatttttag 2280
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<210> 21

<211> 1418

<212> DNA

<213> Homo sapiens

<400> 21

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 atacacctat gaagattata agaacactgc agaatggctt ctgtctcata ctaagcaccg 180
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| | |
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| tgccagatcc tctttctcaa gctgggatta caggtgtgag catagtgaga ccttggcgct | 1200 |
| acaaaataaa gctgtttctca ttctgtttct ttcttacaca agagctggag cccgtgcctt | 1260 |
| accacacatc tgtggagatg cccaggattt gactcgggcc ttagaacttt gcatagcagc | 1320 |
| tgctactagc tctttgagat aatacattcc gaggggctca gttctgcctt atctaaatca | 1380 |
| ccagagacca aacaaggact aatccaatac ctcttgga | 1418 |

<210> 22

<211> 13957

<212> DNA

<213> Homo sapiens

<400> 22

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| tcattgtttt taagcctact ggagcaataa agtttgaaga actttttacca ggtttttttt | 180 |
| atcgctgcct tgatatacac ttttcaaaat gctttgggtg gaagaagtag aggactgtta | 240 |
| tgaaagagaa gatgttcaaa agaaaacatt cacaaaatgg gttaatgcac aattttctaa | 300 |
| gtttgggaag cagcatattg agaacctctt cagtgccta caggatggga ggcgcctcct | 360 |
| agacctctc gaaggcctga caggggcaaaa actgccaaaa gaaaaaggat ccacaagagt | 420 |
| tcatgccttg aacaatgtca acaaggcact gcgggttttg cagaacaata atgttgattt | 480 |
| agtgaatatt ggaagtactg acatcgtaga tggaaatcat aaactgactc ttggtttgat | 540 |
| ttggaatata atcctccact ggcagggtcaa aaatgtaatg aaaaatatca tggctggatt | 600 |
| gcaacaaacc aacagtgaag agattctcct gagctgggtc cgacaatcaa ctcgtaatta | 660 |
| tccacagggt aatgtaatca acttcaccac cagctggtct gatggcctgg ctttgaatgc | 720 |
| tctcatccat agtcataggc cagacctatt tgactggaat agtgtggttt gccagcagtc | 780 |
| agccacacaa cgactggaac atgcattcaa catcgccaga tatcaattag gcatagagaa | 840 |
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| ggaaatgttg ccaaggccac cttaaagtac taaagaagaa cattttcagt tacatcatca | 1020 |
| aatgcactat tctcaacaga tcacggtcag tctagcacag ggatatgaga gaacttcttc | 1080 |
| ccctaagcct cgattcaaga gctatgccta cacacaggct gcttatgtca ccacctctga | 1140 |
| ccctacacgg agcccatttc cttcacagca tttggaagct cctgaagaca agtcatttgg | 1200 |

| | | | | | | |
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| cagttcattg | atggagagtg | aagtaaact | ggaccgttat | caaacagctt | tagaagaagt | 1260 |
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| tgtggaagtg | gtgaaagacc | agtttcatac | tcatgagggg | tacatgatgg | atttgacagc | 1380 |
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| attatcagaa | gatgaagaaa | ctgaagtaca | agagcagatg | aatctcctaa | attcaagatg | 1500 |
| ggaatgcctc | agggtagcta | gcatggaaaa | acaaagcaat | ttacatagag | ttttaatgga | 1560 |
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